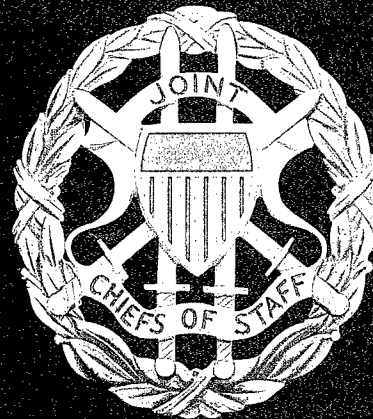


Joint Pub 3-12.1



Doctrine for Joint Theater Nuclear Operations

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9 February 1996

PREFACE

1. Scope

This publication provides guidance for nonstrategic nuclear force employment. It is written for those who:

a. Provide strategic direction to joint forces (Secretary of Defense, Chairman of the Joint Chiefs of Staff, normally in consultation with the other members of the Joint Chiefs of Staff, and commanders of combatant commands).

b. Employ joint forces (commanders of unified commands, subunified commands, or joint task forces).

2. Purpose

This publication has been prepared under the direction of the Chairman of the Joint Chiefs of Staff. It sets forth doctrine to govern the joint activities and performance of the Armed Forces of the United States in joint operations as well as serving as the doctrinal basis for US military involvement in multinational and interagency operations. It provides military guidance for the exercise of authority by combatant commanders and other joint force commanders and prescribes doctrine for joint operations and training. It provides military guidance for use by the Armed Forces in preparing their appropriate plans. It is not the intent of this publication to restrict the authority of the joint force commander (JFC) from organizing the force and executing the mission in a manner the JFC deems most appropriate to ensure unity of effort in the accomplishment of the overall mission.

3. Application

a. Doctrine and guidance established in this publication apply to the commanders of combatant commands, subunified commands, joint task forces, and subordinate components of these commands. These principles and guidance also may apply when significant forces of one Service are attached to forces of another Service or when significant forces of one Service support forces of another Service.

b. The guidance in this publication is authoritative; as such, this doctrine will be followed except when, in the judgment of the commander, exceptional circumstances dictate otherwise. If conflicts arise between the contents of this publication and the contents of Service publications, this publication will take precedence for the activities of joint forces unless the Chairman of the Joint Chiefs of Staff, normally in coordination with the other members of the Joint Chiefs of Staff, has provided more current and specific guidance. Commanders of forces operating as part of a multinational (alliance or coalition) military command should follow multinational doctrine and procedures ratified by the United States. For doctrine and procedures not ratified by the United States, commanders should evaluate and follow the multinational command's doctrine and procedures, where applicable.

For the Chairman of the Joint Chiefs of Staff:



WALTER CROSS
Lieutenant General, USAF
Director, Joint Staff

Preface

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EXECUTIVE SUMMARY COMMANDER'S OVERVIEW

- **Provides Guidance for Nonstrategic Nuclear Force Employment**
 - **Defines the Role of US Theater Nuclear Operations**
 - **Describes Command and Control of Nuclear Operations**
 - **Discusses Planning and Employment of Nuclear Weapons**
 - **Explains Command Responsibilities and Staff Procedures**
 - **Outlines Support Coordination**
-

Role of US Theater Nuclear Operations

Nuclear operations can be successful in achieving US military objectives if they are used in the appropriate situation and administered properly.

The purpose of US nuclear forces is to help deter the use of weapons of mass destruction (WMD). These forces protect many allies and assure their security. It is critical, however, that allies and adversaries understand the US policy governing the use of **these weapons**, since they **can provoke serious political, economic, military, and environmental consequences.**

Only the President of the United States or his successor can authorize the release of a nuclear weapon. Command and control over nuclear forces must be error free and clearly defined. The chain of command for the release of nuclear weapons starts when a commander requests authority to employ nuclear weapons to achieve a military objective.

The Law of Armed Conflict

The law of armed conflict forces us to think about the consequences of nuclear weapons before we employ them.

Treaties and customs that represent the collective views of the belligerents have been developed throughout history. These principles protect combatants and noncombatants, safeguard human rights, and facilitate the restoration of peace. These treaties and customs make up the law of armed conflict.

This law does not prohibit the use of nuclear weapons in armed conflict. However, any weapon used must be considered a military necessity, and measures must be taken to avoid collateral damage and unnecessary suffering. Since nuclear

Executive Summary

weapons have greater destructive potential, in many instances they may be inappropriate.

US Policy and Military Doctrine

Nuclear weapons have many purposes, but should only be used after deterrence has failed.

Our **national military policy** is first and foremost to **deter aggression** by means of a strong **nuclear** and **conventional** capability. If deterrence fails, forces must be prepared to end the conflict on favorable terms to the United States, its interests, and its allies.

The purpose of using nuclear weapons can range from producing a political decision to influencing an operation.

Nuclear weapons should change the perceptions of the enemy leaders about the ability to win, demonstrate to enemy leaders that loss outweighs their potential gain, achieve prompt resolution of the conflict, preclude the enemy from achieving its objectives, ensure success of the effort by US and multinational forces, and counter enemy weapons of mass destruction.

Threat of Weapons of Mass Destruction

The US must be more prepared than ever for the threat of the use of weapons of mass destruction.

The **threat of nuclear exchange** by regional powers and the proliferation of WMD **have grown** following the end of the Cold War. Currently, **short-, medium-, and intermediate-range missiles capable of carrying nuclear, biological, or chemical warheads are the primary threat** in theaters. The potential for US operations in this lethal environment increases as nations continue to develop and obtain WMD.

Nuclear Support Forces

There are many nuclear support systems available for the geographic combatant commander.

Theater nuclear support may be provided by a **geographic combatant commander's assigned forces, US Strategic Command (USSTRATCOM), or another supporting combatant commander (CINC)**. The US nuclear arsenal contains a wide range of systems that can be tailored to meet desired military and political objectives. Naturally, each system has **advantages** and **disadvantages** when applied in a theater nuclear support context, such as **range, weapon yields, lead time, accuracy, recallability, and vulnerability** to enemy defense systems.

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Command and Control of Nuclear Operations

Proper command and control during the complexities of nuclear warfare is critical to the operation's success.

The President, the sole authority for release of US nuclear weapons, will release these weapons based on recommendations from the Secretary of Defense, the Chairman of the Joint Chiefs of Staff, geographic combatant commanders, and allies. To maintain control over the execution of this release, **a viable command, control, communications, and computer system is essential.**

The geographic combatant commander is responsible for promptly requesting nuclear support. Subordinate commanders responsible for target nominations submit requests to the geographic combatant commander. Execution procedures must be flexible and allow for changes in the situation. **Operations with multinational forces require appropriate doctrine and procedures for taskings, conflict resolution, target selection, and analysis.**

Command and control systems must be configured to support the complex requirements of nuclear operations. During or after an enemy WMD attack, command and control (C2) of friendly forces can become difficult. Their C2 facilities may be degraded or destroyed, or the personnel operating these systems may become incapacitated.

Control of US nuclear weapons has been established to preclude unauthorized or inadvertent use by US or allied forces, foreign powers, or terrorists, while not degrading the operational readiness of these weapons. Control is managed via dedicated media message delivery systems within a given theater or region, which provide specific direction for the employment of nuclear weapons. There are also several additional command and control nuclear safeguards in place.

Planning and Employment

For nuclear employment to be successful, advanced planning and integration are essential. It is important that planners be mindful of the law of armed conflict and the political objectives at hand.

Joint Force Commanders (JFCs) must plan for the employment of nuclear weapons by US forces in a manner consistent with national policy and strategic guidance. **Nuclear operations planning should be integrated into operation plans** to maximize effects needed to achieve the CINC's desired objectives.

The employment of nuclear weapons is restricted to situations where military gain is commensurate with political objectives and the law of armed conflict.

Executive Summary

Containment and a demonstrated will to employ additional nuclear weapons toward a specific goal are the desired methods of approach. The relative effectiveness of all weapons must be weighed and employment of nuclear weapons must offer a significant advantage. **Preclusion limitation analysis must be performed to avoid casualties among friendly forces and civilians.**

The possibility and extent of collateral damage must also be determined. Methods for reducing collateral damage include: reducing weapon yield, improving accuracy, employing multiple weapons, adjusting the height of burst, and offsetting the desired ground zero.

Advanced planning is critical to the successful use of nuclear weapons. **Planners should consider the level of effort required for conventional targeting, the length of time that a target must be kept out of action, logistic support and anticipation of delays, the effect on all forces, and any national and theater level constraints.**

Targeting

Targeting is the analysis of enemy situations to identify specific weaknesses that, if exploited, will accomplish an operations goal through delaying, disrupting, disabling, or destroying critical enemy forces or resources.

Targeting is the process of selecting targets and matching the appropriate response to them. Targeting occurs and is performed at all levels of command within a joint force. JFCs establish broad planning objectives and guidance for attack of enemy strategic and operational centers of gravity.

Geographic combatant commanders should consider the following factors in determining how to defeat the individual targets composing the overall threat: inability of friendly forces to destroy targets using conventional means, number and type of individual targets, vulnerability of targets, required level of damage for each target, optimum timing, enemy's ability to reconstitute, avoidance of collateral damage, and environmental conditions.

Enemy combat forces and facilities that may be **likely targets** for nuclear strikes **include WMD and their delivery systems, ground combat units, air defense facilities, naval installations, combat vessels, nonstate actors, and underground facilities.**

Executive Summary

Enemy Use of Weapons of Mass Destruction

It is important during peacetime to set up a strategy for war that is functional immediately, and one that will achieve the objectives in wartime.

Operation planning should include the possibility that an enemy will use WMD. The plan should address **active and passive defense measures to counter** the potential use of **these weapons**. **Enemy aircraft, theater missiles, and artillery** are most **likely to strike friendly forces**. Operations must be planned and executed to **destroy or eliminate enemy WMD delivery systems** and supporting infrastructure **before they can strike friendly forces**.

Command Responsibilities and Staff Procedures

The goals of nuclear execution must be clear to commanders and staff officers involved in the operation.

Command guidance must be provided early in the planning process for use of nuclear weapons. Commanders and staff officers should understand effects, employment procedures, capabilities, and limitations of nuclear weapons systems. **Command guidance may consist of a statement of desired results, circumstances leading to the request for nuclear execution, and the delivery systems available.** It may also include the level of acceptable risk, restriction on fallout, and criteria for collateral damage, as well as criteria for intelligence collection and combat assessment.

Support Coordination

Support coordination is essential to maintain unity in nuclear support plans.

Nuclear support is coordinated through geographic combatant commander channels. When preparing for nuclear support plans, **USSTRATCOM will coordinate with supporting Service components and the geographic combatant commander to prevent fratricide and ensure unity of efforts.** Special operation forces (SOF) in an area of nuclear operations should be given consideration to avoid any casualties or collateral damage to the SOF.

In order to comply with the law of armed conflict, nuclear weapons are distributed with caution, based on many factors.

Nuclear weapon supply levels and expenditures are tightly controlled and the National Command Authorities and combatant commander control the distribution. **Distribution is affected by the mission, planning, survivability, availability, safety, security, and time and distance considerations.** It is important for the commanders and staff officers to understand the capabilities and limitations of the nuclear weapon logistics system. Planning of nuclear weapons support should include support of tactical operations, simplicity and uniformity in procedures, minimum handling of weapons, and security of classified material.

Warnings and Assessment

Strike warnings must be announced to the field immediately to ensure the safety of friendly forces.

Friendly forces should receive advanced warning of nuclear strikes to ensure that they are not placed at unnecessary risk. Attacks are announced through a strike warning (STRIKEWARN) message. **STRIKEWARN messages will be disseminated as rapidly as possible over secure networks,** by the executing commander. When secure networks are not available, unit signal operation instructions will aid in disseminating the messages.

JFCs should establish a dynamic system to conduct combat assessment operations across the joint operations area. This assessment will be required immediately following a nuclear strike in order to collect data on the enemy to determine if the strike inflicted the desired damage. Poststrike reconnaissance process must assess damage to enemy forces, identifying targets for restrike, and obtain information on residual damage.

CONCLUSION

This publication provides guidance for theater nuclear forces employment. It is written for those who provide strategic direction to, or employ, joint forces. This publication covers operational doctrine for theater nuclear operations, command responsibilities, staff procedures for theater nuclear operations, and guidance on target planning for theater nuclear operations.

CHAPTER I

ROLE OF US THEATER NUCLEAR OPERATIONS

"The highest priority of our military strategy is to deter a nuclear attack against our Nation and allies. Our survival and the freedom of action that we need to protect extended national interests depend upon strategic and nonstrategic nuclear forces and their associated command, control, and communications."

National Military Strategy of the United States of America, 1995

1. General

a. US nuclear forces **help deter the use of weapons of mass destruction (WMD)** and **serve as a hedge against** the emergence of an **overwhelming conventional threat**. Nuclear forces deter attacks against the American homeland and contribute to theater deterrence as instruments of national power. The **US nuclear umbrella protects** many allies as well and helps assure their security. Because the use of one such weapon in a conflict will provoke serious political, economic, military, and environmental consequences, **US policy** governing the use of these weapons **must be clearly understood** by friends as well as adversaries. Deterrence is only achieved when both capability and will are explicitly defined, demonstrated, and known by all parties.

b. **Only the President of the United States or his successor can authorize the release of a nuclear weapon.** Command and control over nuclear forces must be **error free** and the chain of command linking the National Command Authorities (NCA) with the nuclear force must be **clearly defined**. When a geographic combatant commander engaged in a military confrontation determines that nuclear weapons can achieve a military objective that cannot be achieved by conventional means, the commander may request authority to employ nuclear weapons. **The President, however, ultimately has approval authority over all combatant commander (CINC) decisions involving the**

deployment and execution of nuclear missions.

2. The Law of Armed Conflict

Throughout the history of war, treaties and customs have developed which generally represent the collective views of the belligerents. Their principles protect combatants and noncombatants, safeguard fundamental human rights, and facilitate the restoration of peace by limiting the amount of force and the manner in which force is applied. Together, these treaties and customs are known as **the law of armed conflict**. **Neither the law of armed conflict nor national policy sanction devastation as an end in itself.** Both recognize the need for a reasonable connection between the destruction of life and property and the defeat of the enemy's forces. That having been said, neither the law of armed conflict nor any other customary or conventional international law prohibits the use of nuclear weapons in armed conflict. However, to comply with the law, a particular use of any weapon must satisfy the long-standing targeting rules of military necessity, proportionality, and avoidance of collateral damage and unnecessary suffering. **Nuclear weapons are unique in this analysis only in their greater destructive potential** (although they also differ from conventional weapons in that they produce radiation and electromagnetic effects and, potentially, radioactive fallout). In some circumstances, the use of a nuclear weapon may therefore be inappropriate. Treaties may impose additional

Chapter I

restrictions on nuclear weapons. Additional treaty information regarding nuclear weapons can be found in Joint Pub 3-12, "Doctrine for Joint Nuclear Operations."

3. US Policy and Military Doctrine

Nuclear forces employed in support of a geographic combatant commander are bound by the same policy constraints as strategic nuclear forces. Our national military policy is first and foremost **to deter aggression by means of a strong nuclear and conventional capability**. Should deterrence fail, our forces must be prepared **to end the conflict on terms favorable to the United States, its interests, and its allies**. Units capable of delivering nuclear weapons should be integrated with other forces in a **combined arms, joint approach**. When used, **nuclear weapons should produce the results shown in Figure I-1**.

The purpose of using nuclear weapons can range from **producing a political decision** at the strategic level of war to being used to **influence an operation** in some segment of the theater. Operations employing **nuclear weapons** will have a **greater impact** on a conflict than operations involving only conventional weapons.

4. The Threat of Weapons of Mass Destruction

a. The dissolution of the Soviet Union has greatly reduced the possibility of a large scale nuclear exchange. **However, the loss of the stability inherent in a clearly bipolar world has increased the likelihood of a nuclear exchange by regional powers**. In addition, the threat to the United States, its allies, and its deployed forces due to the proliferation of WMD has grown following the end of the Cold War. The flow of advanced technology to potential or actual hostile nations has led to a proliferation of systems (missiles and

DESIRED RESULTS FROM THE USE OF NUCLEAR WEAPONS

- **Decisively change the perception of enemy leaders about their ability to win**
- **Demonstrate to enemy leaders that, should the conflict continue or escalate, the certain loss outweighs the potential gain**
- **Promptly resolve the conflict on terms favorable to the United States and our allies**
- **Preclude the enemy from achieving its objectives**
- **Ensure the success of the effort by US and/or multinational forces**
- **Counter enemy weapons of mass destruction**

Figure I-1. Desired Results from the Use of Nuclear Weapons

aircraft) capable of delivering WMD. **The possibility of a WMD exchange in a regional conflict has risen dramatically, threatening our forward-deployed forces and challenging our long-range power projection capabilities.**

b. **The current threat in theater consists primarily of short-, medium-, and**

Role of US Theater Nuclear Operations

intermediate-range missiles capable of carrying nuclear, biological, or chemical warheads. Future threat systems may exhibit greater capabilities, such as increased accuracy, range, and destructive power. Additionally, aircraft systems and cruise missiles capable of delivering WMD will also pose a threat.

c. As nations continue to develop and obtain WMD and viable delivery systems, the potential for US operations in such a lethal environment increases. In addition to proliferation of WMD among rogue states, **proliferation may also expand to include nonstate actors as well.**

5. Nuclear Support Forces

Theater nuclear support may be provided by a geographic combatant commander's assigned forces, US Strategic Command (USSTRATCOM), or from another supporting CINC. Weapons in the **US nuclear arsenal** (see Figure I-2) include: gravity bombs deliverable by dual-capable aircraft (DCA) and long-range bombers; the Tomahawk Land Attack Missile/Nuclear (TLAM/N) deliverable by submarines; cruise missiles deliverable by long-range bombers; submarine-launched ballistic missiles (SLBM); and intercontinental ballistic missiles (ICBM). **These systems provide the NCA and the geographic combatant commander with a wide range of options** which can be tailored to meet desired military and political objectives. Each system has unique **advantages and disadvantages** when applied in a theater nuclear support context. Specific weapon data can be found in Joint Pub 3-12.2, "Nuclear Weapons Employment Effects Data."

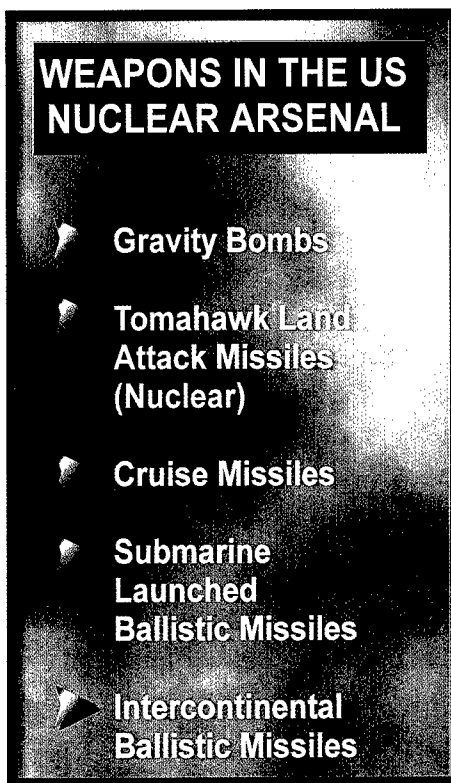


Figure I-2. Weapons in the US Nuclear Arsenal

a. **Gravity bombs deliverable by DCA and long-range bombers.**

- **Advantages**

- Aircraft increases range (when properly supported by tankers) and provides flexibility and recall
- Weapons may be employed against mobile targets
- Various weapon yields available — from very high to very low
- Aircraft can be launched from the continental United States

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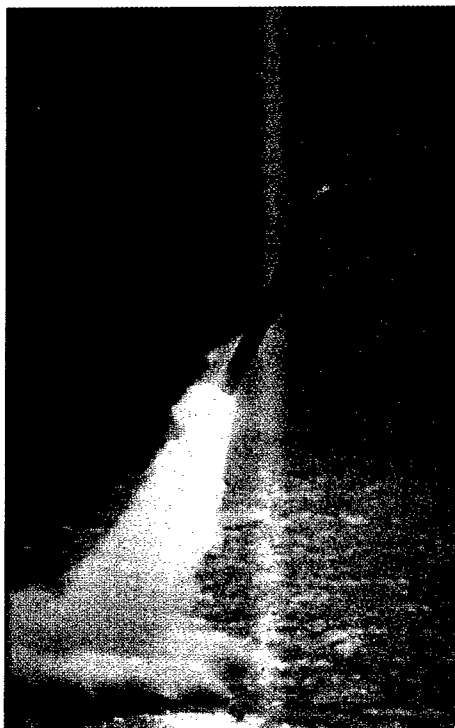
- **Disadvantages**

- Crew at risk in high threat environment
- Lead time required for planning and transit
- Significant combat support and ground support infrastructure may be required, depending on scenario
- Equipment may have to be released from other operation plan (OPLAN) tasking

b. **TLAM/N.** (Specifics can be found in NWP 28.)

- **Advantages**

- Heavily defended areas may be penetrated without risk to crew



A submarine-delivered TLAM/N provides maximum stealth and surprise prior to launch.

- Highly mobile platforms in international waters may serve as launch sites

- Weapons are highly accurate

- Launching platform is recallable

- Basing issues simplified; overflight of third party nations alleviated (depending on launch location)

- Maximum stealth and surprise can be maintained prior to launch

- **Disadvantages**

- Weapons not recallable in flight

- Lead time required to generate and transit needed to desired launch point

- System may be vulnerable to modern air defense systems

- Terrain factors limit employment flexibility

- Weapon yield may be too large for certain theater targets

- Launch platform must receive updated data transfer device in order to update a mission plan

c. **Cruise missiles launched from long-range bombers**

- **Advantages**

- Weapon can penetrate heavily defended area without risk to crew

- Weapon can be launched from international airspace

- Bomber aircraft range is significant

Role of US Theater Nuclear Operations

- • Weapon system is recallable prior to launch from bomber

- **Disadvantages**

- • Weapon yield may be too large for certain theater targets
- • System may have to be released from Single Integrated Operational Plan (SIOP) commitment
- • Missile is not recallable in flight
- • System may be vulnerable to modern air defense systems
- • Terrain factors limit employment flexibility

d. SLBMs

- **Advantages**

- • Weapon can penetrate heavily defended areas without risk to crew
- • Weapon can be launched in international waters
- • Weapon can be on target in minimal time
- • Maximum stealth and surprise can be maintained prior to launch
- • System provides flexible targeting capability
- • Weapon has multiple warheads

- **Disadvantages**

- • Weapon yield may be too large for certain theater targets
- • Multiple warheads present more planning challenges
- • Missile is not recallable in flight
- • System must be released from SIOP commitment

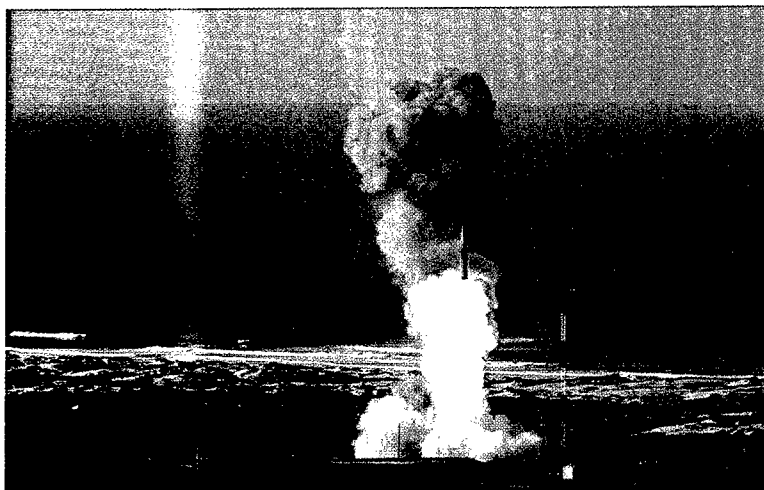
e. ICBMs

- **Advantages**

- • Weapon can penetrate heavily defended areas without risk to crew
- • Weapon can be on target in minimal time
- • Planning time is short
- • Weapon has multiple warheads

- **Disadvantages**

- • Weapon yield may be too large for certain theater targets
- • System requires release from SIOP
- • Missile is not recallable
- • Booster may fall on US or Canadian territory
- • Multiple warheads present more planning challenges



In a theater nuclear role the use of ICBM capability presents planning challenges, but such capability can be on target in minimal time, if required.

CHAPTER II

COMMAND AND CONTROL OF NUCLEAR OPERATIONS

"The measure of command and control effectiveness is simple: either our command and control works faster than the enemy's decision and execution cycle or the enemy will own our command and control."

Fleet Marine Force Manual 3 Command and Control

1. General

National policy requires centralized execution authority of nuclear weapons. **The President is the sole authority for release of US nuclear weapons.** The President's decision to authorize release of these weapons is based on **recommendations of the Secretary of Defense, the Chairman of the Joint Chiefs of Staff (CJCS), geographic combatant commanders, and allies.** The President will monitor all aspects of their execution. Release and related instructions will be transmitted from the NCA via CJCS in accordance with established emergency action procedures (EAPs). To maintain this control, a viable **command, control, communications, and computers (C4) system** is essential.

2. Command Responsibilities

a. **The geographic combatant commander is responsible for promptly requesting nuclear support.** The commander must be able to ascertain the military situation; assess intelligence inputs and pass information and conclusions to higher levels of control; and finally, upon receipt of execution instructions, control assigned forces to achieve the desired objectives. **Subordinate commanders responsible for target nominations submit requests to the geographic combatant commander.**

b. **Execution procedures must be flexible and allow for changes** in the situation. Commanders must ensure that constraints and release guidance are met. The commander controlling the nuclear strike package must **maintain communications with the delivery unit and establish a chain of succession** that will avoid loss of control resulting from the loss of a headquarters.

c. **Operations with multinational forces** require multinational doctrine and procedures for taskings, conflict resolution, target selection, and analysis. **The US element commander in a multinational command will provide guidance and publish directives on the use of nuclear weapons** by US forces in such commands.

d. **The Nuclear Supplement to the Joint Strategic Capabilities Plan (JSCP)** describes situations which could lead to a **request for the selective release of nuclear weapons.** The commander's request must contain sufficient information to ensure complete understanding of the situation at the highest level of government.

e. **Employment guidance for nuclear weapons** is outlined in theater-specific plans, the CJCS EAP, and the Nuclear Supplement to the JSCP.

Chapter II

THE TREATY ON THE PROHIBITION OF NUCLEAR WEAPONS IN LATIN AMERICA (TREATY OF TLATELOLCO)

Spurred by the 1962 Cuban missile crisis, in the mid-1960s a number of Latin American states sought to establish a nuclear-weapon-free zone in the region. In 1967, the Treaty of Tlatelolco, establishing such a zone, was opened for signature. Under the pact, parties agree not to manufacture, test, or acquire nuclear weapons or to accept such weapons on their territory deployed by others. Two protocols to the treaty apply to countries outside the region. Protocol I requires those nuclear-weapon states with territories in Latin America to honor the treaty's denuclearization requirements with respect to those territories. Protocol II prohibits nuclear-weapon states from using or threatening to use nuclear weapons against treaty parties. (Transit of nuclear weapons on the high seas is not affected.) In addition, the treaty establishes the Agency for the Prohibition of Nuclear Weapons in Latin America (OPANAL), to undertake special inspections at the request of parties.

Under the treaty's entry-into-force provisions, the accord becomes effective once it has been ratified by all eligible countries in the region and once all of the relevant states outside the region have ratified the protocols pertaining to them. As of mid-1992, twenty-two states had ratified the pact and waived the provision requiring unanimity. Brazil and Chile had ratified the treaty but had not waived this requirement, while Argentina had signed but not formally ratified the accord, and Cuba had neither signed nor ratified the pact. In late 1990, Argentina and Brazil each announced its intent to bring the treaty into force, and Cuba subsequently announced that it would join the treaty once Argentina and Brazil did so. With France's ratification of Protocol I in February 1992, all of the states outside the region had ratified the treaty's protocols pertaining to them.

SOURCE: Spector, Leonard A., A Historical and Technical Introduction to the Proliferation of Nuclear Weapons, Carnegie Endowment, June 1992

3. C4 Considerations

Since the geographic combatant commander may exercise control for allocated nuclear weapons and will provide planning requirements to the CJCS regarding nuclear attack plans, **command and control systems** must be configured to support the complex requirements of such operations. **During or after an enemy WMD attack, command and control (C2) of friendly forces can become difficult.** Command and control facilities may be targeted and their operation **degraded or destroyed.** For example, during a nuclear strike, along with the associated

physical damage, **C2 facilities and equipment may suffer the effects of electromagnetic pulse (EMP),** which could degrade or destroy unshielded electronic equipment and result in severe degradation of C4 systems. Also, if personnel operating these systems are incapacitated, a drastic degradation in C2 capabilities could result. More specific guidance can be found in Joint Pub 3-11, "Joint Doctrine for Nuclear, Biological, and Chemical (NBC) Defense." **The maintenance of viable C2 systems and associated redundancies is critical to theater nuclear operations.**

Command and Control of Nuclear Operations



Recalling dual-capable aircraft requires viable command and control systems that are configured to support complex theater nuclear requirements.

4. Control of Nuclear Weapons

a. Control of US nuclear weapons has been established to **preclude unauthorized or inadvertent use** either by US or allied forces, foreign powers, or terrorists while, at the same time, not degrading the operational readiness of these weapons.

b. Control is managed via **dedicated media message delivery systems standardized for joint operations** within a given theater or region, which provides specific direction for the employment of nuclear weapons. Nuclear command and

control messages are transmitted to forces following the guidance in the Emergency Action Procedures of the Chairman of the Joint Chiefs of Staff, Volumes I through VII; Commander in Chief, US Strategic Command (USCINCSSTRAT) Emergency Action Procedures; and the Nuclear Supplement to the JSCP.

c. Examples of **additional command and control nuclear safeguards** are permissive action link (PAL), coded switch set controller (CSSC), sealed authentication systems, the personnel reliability program (PRP), and sensitive keys.

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CHAPTER III

PLANNING AND EMPLOYMENT

"The unrelenting progress of mankind causes continual change in the weapons; and with that must come a continual change in the manner of fighting."

Mahan, 1890

1. General

When directed by the NCA, joint force commanders (JFCs) plan for the employment of nuclear weapons by US forces in a manner consistent with national policy and strategic guidance. The employment of such weapons signifies an escalation of the war and is an NCA decision. USSTRATCOM is tasked by the Nuclear Supplement of the JSCP to provide specific support to geographic combatant commanders for their nuclear planning. Additional guidance is also provided by geographic combatant commander OPLANs and CJCS EAPs. Nuclear operations planning should be integrated into operation plans to maximize effects needed to achieve the CINC's desired objectives. **Use of nuclear forces should be restrictive**, with tight limits on area and time of use so that the adversary will recognize the "political signal" and not assume that the US has moved to general nuclear war.

2. Employment Guidelines

The employment of nuclear weapons is restricted to those situations where the military gain is commensurate with political objectives and the law of armed conflict. Complete destruction of enemy forces is not necessarily required to achieve a desired objective; rather, **containment** and a **demonstrated will to employ** additional nuclear weapons toward a specific goal are the preferred methods. Their suitability is based on the following considerations (see Figure III-1):

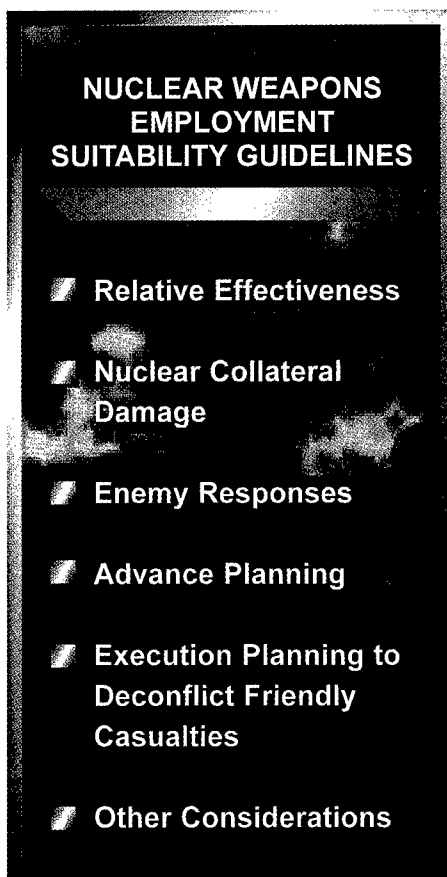


Figure III-1. Nuclear Weapons Employment Suitability Guidelines

a. **Relative Effectiveness.** The relative effectiveness of nuclear and nonnuclear weapons must be weighed. **The employment of nuclear weapons must offer a clearly significant advantage over nonnuclear munitions.** When nuclear weapons will produce only a marginal gain in effectiveness over nonnuclear weapons, there may be no

Chapter III

reason to use them since their employment is likely to have geopolitical and military implications beyond the immediate situation.

b. **Nuclear Collateral Damage.** Such damage includes dangers to friendly forces, civilians, and nonmilitary related facilities, creation of obstacles, and residual radiation contamination. Since the **avoidance of casualties** among friendly forces and civilians is a prime consideration when planning theater nuclear operations, **preclusion limitation analysis must be performed to identify and limit the proximity of a nuclear strike to civilians and friendly forces.** The amount of damage varies with the protective posture of civilians and friendly units, delivery system accuracy, weapon yield, and height of burst. Additionally, these operations may **create obstacles** that inhibit both friendly and enemy

Effects Data,” provides avoidance tables. Specific techniques for reducing collateral damage include:

- **Reducing Weapon Yield.** Balance the size of the weapon needed to achieve the desired damage against the associated danger to areas surrounding the target.
- **Improving Accuracy.** Accurate delivery systems are more likely to strike the desired aimpoint, reducing both the required yield and potential collateral damage.
- **Employing Multiple Weapons.** Collateral damage can be reduced by dividing a large target into several small ones and using smaller weapons rather than one large one.



The employment of cruise missiles on specific targets in a theater scenario needs to be carefully analyzed to avoid detrimental collateral damage.

movement (e.g., tree blow down, fires, area contamination, and rubble). **Determining the possibility and extent of collateral damage is a joint force command level and USSTRATCOM responsibility.** Joint Pub 3-12.2, “Nuclear Weapons Employment

- **Adjusting the Height of Burst (HOB).** HOB adjustments, including the use of subsurface detonations, are a major means of controlling collateral damage and fallout. The HOB has a significant influence on the radius of damage.

Planning and Employment

- **Offsetting the Desired Ground Zero (DGZ).** DGZ offset may achieve the desired weapon effects while avoiding collateral damage.
- c. **Enemy Responses.** In developing plans, commanders and their staffs should **consider the enemy's capabilities and likely responses to nuclear operations.**

JOINT TASK FORCE ONE - 1946

The operations of Joint Task Force One in conducting the [South Pacific atomic bomb] tests have set a pattern for close, effective cooperation of the Armed Services and civilian scientists in the planning and execution of this highly technical operation. Moreover, the tests have provided valuable training of personnel in joint operations requiring great precision and coordination of effort.

It is impossible to evaluate an atomic burst in terms of conventional explosives. As to detonation and blast effects, where the largest bomb of the past was effective within a radius of a few hundred feet, the atomic bomb's effectiveness can be measured in thousands of feet. However, the radiological effects have no parallel in conventional weapons. It is necessary that a conventional bomb score a direct hit or a near miss of not more than a few feet to cause significant damage to a battleship. At Bikini the second bomb, bursting under water, sank a battleship immediately at a distance of well over 500 feet. It damaged an aircraft carrier so that it sank in a few hours, while another battleship sank after five days. The first bomb, bursting in air, did great harm to the superstructures of major ships within a half-mile radius, but did only minor damage to their hulls. No ship within a mile of either burst could have escaped without some damage to itself and serious injury to a large number of its crew.

Although lethal results might have been more or less equivalent, the radiological phenomena accompanying the two bursts were markedly different. In the case of the airburst bomb, it seems certain that unprotected personnel within one mile would have suffered high casualties by intense neutron and gamma radiation as well as by blast and heat. Those surviving immediate effects would not have been menaced by radioactivity persisting after the burst.

In the case of the underwater explosion, the airburst wave was far less intense and there was no heat wave of significance. Moreover, because of the absorption of neutrons and gamma rays by water, the lethal quality of the first flash of radiation was not of high order. But the second bomb threw large masses of highly radioactive water onto the decks and into the hulls of vessels. These contaminated ships became radioactive stoves and would have burned all living things aboard them with invisible and painless but deadly radiation.

Observations during the two tests have established the general types and range of effectiveness of air and shallow underwater atomic-bomb bursts on naval vessels, army materiel, including a wide variety of Quartermaster stores, and personnel. From these observations and from instrumental data it will now be possible to outline such changes, not only in military and naval design, but also in strategy and tactics, as future events may indicate.

SOURCE: Preliminary Statement, Joint Chiefs of Staff
Evaluation Board on Bikini Atomic Tests, August 2, 1946

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d. **Planning.** Advance planning is critical to the successful use of nuclear weapons. Targeting guidance and plans must be current, be tied to national and theater intelligence assessments, satisfy specified objectives, and meet existing or expected release conditions. Planners should consider:

- **Level of effort required for conventional targeting.** If the target is heavily defended such that heavy losses are expected, a nuclear weapon may be favored over a conventional attack.
- **Length of time that a target must be kept out of action.** A nuclear weapon attack will likely put a target out of action for a longer period of time than a conventional weapon attack.
- **Logistic support and anticipation of delays caused by the “fog and friction” of war.** Such delays are unpredictable and may range from several hours to a number of days.

e. **Execution Planning.** The effects of nuclear weapons can significantly **affect all types of forces**. This is increasingly likely the closer forces are to the detonation and, in particular, when forces are within line of sight of the detonation. Commanders tasked with execution planning should **deconflict force locations, plan around effects on communications**, and ensure that they have the means **to inform all other commanders in time to avoid friendly casualties**.

f. **Other Considerations.** Geographic combatant commanders and their staffs must also be aware of any **national or theater level constraints** (legal, political, or military) **imposed on the use of nuclear weapons and plan accordingly**.

3. Targeting

Targeting is the process of **selecting targets and matching the appropriate response to them** by taking account of operational requirements and capabilities. Targeting includes the analysis of enemy situations relative to the commander's mission, objectives, and capabilities at the commander's disposal, as well as the identification and nomination of specific vulnerabilities that, if exploited, will accomplish the commander's purpose through delaying, disrupting, disabling, or destroying critical enemy forces or resources. As with all actions of the joint force, targeting and attack functions are accomplished in accordance with international law, international agreements and conventions, and rules of engagement approved by the NCA for the particular operation.

a. **Targeting occurs and is performed at all levels of command within a joint force.** Targeting is complicated by the requirement to deconflict duplicative targeting by different forces or different echelons within the same force and to synchronize the attack of those targets with other dimensions of the joint force.

b. Joint force commanders establish **broad planning objectives and guidance** for attack of enemy strategic and operational centers of gravity and interdiction of enemy forces as an integral part of joint campaigns and major operations. With the advice of subordinate commanders, **JFCs set priorities, provide targeting guidance, and determine the weight of effort** to be provided to various operations.

c. **Targeting mechanisms should exist at multiple levels.** The NCA or headquarters senior to JFCs may provide guidance, priorities, and targeting support to JFCs.

Planning and Employment

d. The targeting process is **cyclical**. It begins with guidance and priorities issued by the NCA and CJCS in parallel with appropriate allied command guidance and priorities, to direct joint force and component commanders and continues through its final step of combat assessment. The process consists of the following phases (see Figure III-2):

- **NCA/Commander's Guidance.** Guidance and objectives from the NCA, CJCS, and joint force and component commanders initiate the targeting cycle.
- **Target Development.** Development of a target focuses on knowing the adversary and identifying and nominating critical elements of adversary target systems for attack.
- **Weaponneering Assessment.** In this phase, targeting personnel quantify the expected results of lethal and nonlethal weapons employment against prioritized targets.
- **Force Application.** The next phase integrates the results of earlier planning phases conducted by USSTRATCOM with the execution request by the geographic combatant commander to fuse target, weapon system, and munitions types and nonlethal force options.
- **Combat Assessment.** The final phase evaluates the results of the targeting cycle and provides feedback to the NCA/Commander's Guidance phase.

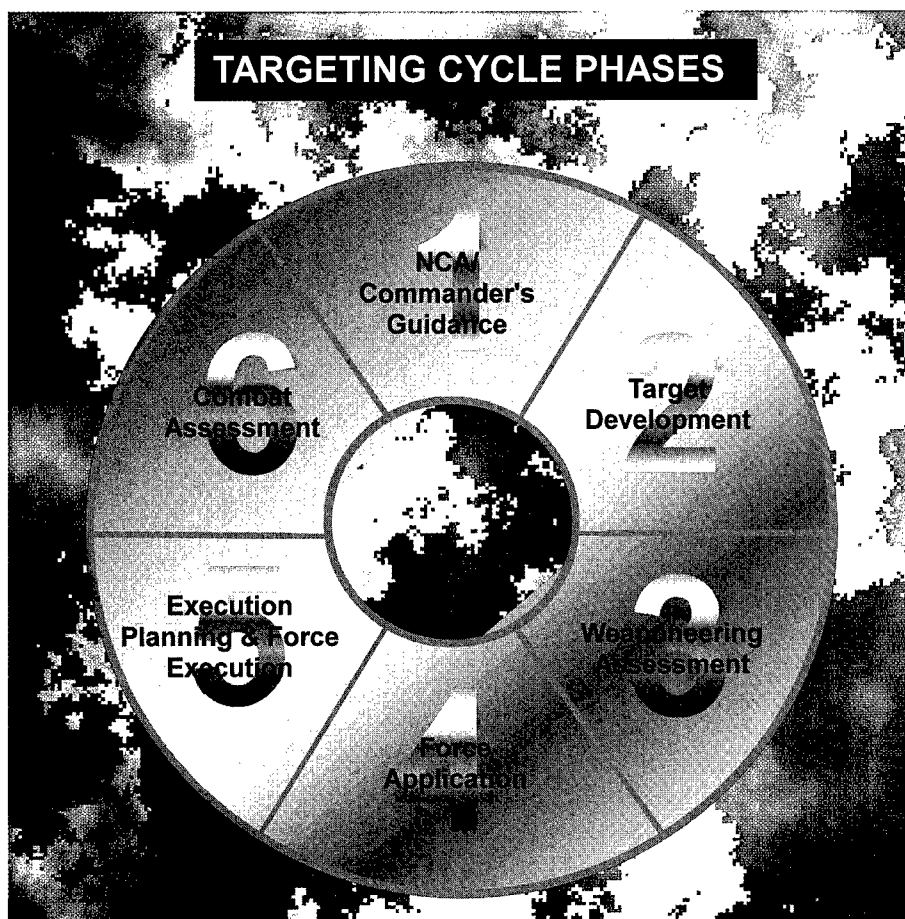
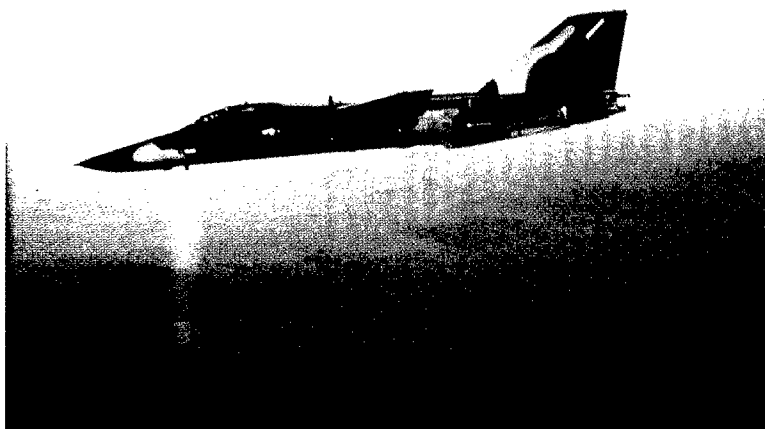


Figure III-2. Targeting Cycle Phases



The targeting process supports the application of the appropriate force at the appropriate location and time.

- **Execution Planning and Force Execution.** This phase involves final tasking order preparation and transmission and specific mission planning and material preparation at the unit level.

determining **how to defeat the individual targets** composing the overall threat. No single statement of damage criteria will cover all situations. Planning should address the considerations shown in Figure III-3.

- **Combat Assessment.** The final phase is a joint effort designed to determine if the required target effects are being achieved for each of the components, consistent with the JFC's campaign objectives. **Nuclear combat assessment is composed of two segments: battle damage assessment (BDA) and reattack recommendation.**

Additional information on targeting can be found in Joint Pub 2-0, "Joint Doctrine for Intelligence Support to Operations," Joint Pub 2-01.1, "JTTP for Intelligence Support to Targeting," Joint Pub 3-0, "Doctrine for Joint Operations," and Joint Pub 3-56.1, "Command and Control for Joint Air Operations."

4. Targeting Considerations

a. Geographic combatant commanders may consider the following factors in

b. **Planning the use of nuclear weapons** is based on knowledge of enemy force strength and disposition, the number, yields, and types of weapons available, and the status and disposition of friendly forces at the time that weapons are employed. **Enemy combat forces and facilities that may be likely targets for nuclear strikes are:**

- WMD and their delivery systems, as well as associated command and control, production, and logistical support units
- Ground combat units and their associated command and control and support units
- Air defense facilities and support installations
- Naval installations, combat vessels, and associated support facilities and command and control capabilities



Figure III-3. Targeting Considerations

- Nonstate actors (facilities and operation centers) that possess WMD
 - Underground facilities
- 5. NCA Considerations for Employment**
- a. **Political**
 - Relationship to US vital interests, treaty commitments, diplomatic agreements, and area denial and escalation implications
 - Perception of US will and resolve
 - b. **Military**
 - Whether or not an alternative means exists to achieve the objective
 - Geographical area for employment
 - Type of delivery system
 - Types of targets to be attacked
 - Timing and duration of nuclear weapon employment
 - International reaction and geopolitical repercussions

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- Collateral damage constraints
- Target analysis
- The quantity, type, and yield of available weapons

c. Legal. Law of Armed Conflict

Along with the above considerations, additional factors may affect nuclear employment — supplementary guidance on these aspects can be found in the Nuclear Supplement to the JSCP.

6. Enemy Use of Weapons of Mass Destruction

When formulating courses of action, **operation planning should address the possibility that an enemy will use WMD.** Planning should also evaluate nuclear, biological and chemical (NBC) defensive measures. Joint Pub 3-11, “Joint Doctrine for Nuclear, Biological and Chemical (NBC) Defense,” and the appropriate Joint Pub 3-01 series provide additional guidance. In theater, the combatant commander must consider the enemy’s NBC weapon and delivery system capability when considering courses of action. If the enemy threat capability assessment indicates an NBC potential, **the campaign plan should address active and passive defense measures** necessary to counter the potential use of such weapons and provide for guidance in defending against such a threat.

a. **Enemy aircraft, theater missiles, and artillery are the most likely delivery systems that could strike friendly forces.** The JFC must be able to conduct successful counterforce operations, which include joint theater missile defense, with the ultimate goal of protecting friendly forces from such attacks. **Counterforce operations** include counterair operations conducted to attain and maintain

air superiority by destruction or neutralization of enemy forces. Both air offensive and air defensive actions are involved and may include offensive and defensive operations against theater WMD platforms. The joint force commander will normally designate both a **joint force air component commander (JFACC)** and an **area air defense commander (AADC)**. The JFACC functions as the supported commander for counterair, strategic attack, theater airborne reconnaissance and surveillance, and the overall air interdiction effort. The AADC is responsible for integrating the joint force air defense effort. Operations must be planned and executed to **destroy or eliminate enemy WMD delivery systems and supporting infrastructure** before they can be employed against friendly forces. For these reasons, offensive operations against enemy WMD and delivery systems should be undertaken once hostilities become inevitable or commence.

b. The threat of WMD use extends across the range of military operations. For this reason, **threat analysis, enemy capabilities, and associated doctrine** should be considered when planning joint operations which could involve NBC attacks. In all cases, **friendly forces should be prepared to conduct and sustain operations in such an environment.** Nuclear weapons can cause **casualties or damage** through blast, overpressure, thermal radiation, proximity to initial nuclear radiation, fallout radiation, and EMP. Biological and chemical weapons cause serious injury or death through their toxic properties. WMD can also produce casualties from the psychological effect of their use. More specific guidance can be found in Joint Pub 3-11, “Joint Doctrine for Nuclear, Biological, and Chemical (NBC) Defense.”

c. A JFC may not know exactly what portion of his forces, allied forces, or

geopolitical assets in a theater may be targeted by enemy operations. The obvious targets would be those that support critical friendly centers of gravity. Examples are shown in Figure III-4.

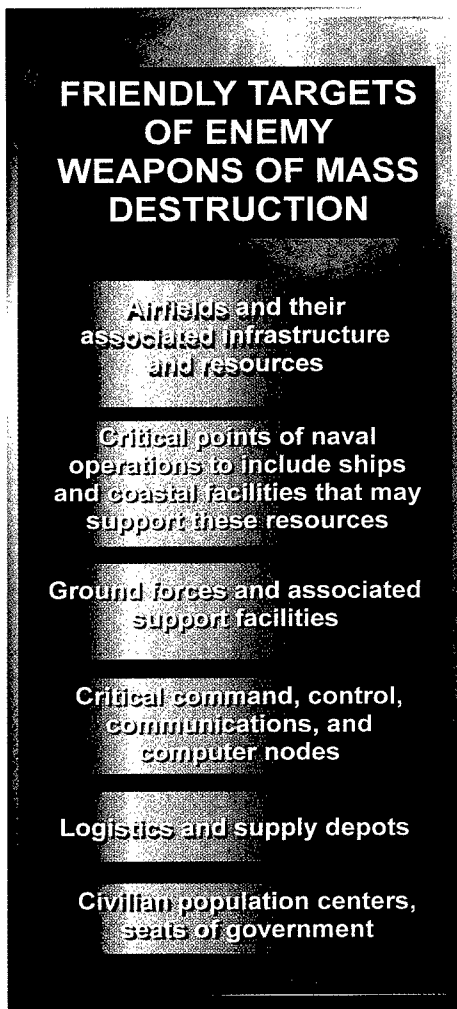


Figure III-4. Friendly Targets of Enemy Weapons of Mass Destruction

Regardless of the targets struck, the JFC must be aware that the **operations tempo** may be significantly affected by a WMD attack.

7. Geographic Combatant Commander Planning for Theater Nuclear Operations

CINCs develop **theater strategy** in conformance with national strategic plans and develop theater strategies, campaign plans, OPLANs, and other plans in coordination with subordinate commanders, other supporting commanders, and allies.

a. CINCs prepare for war by **planning and organizing for conflict during peacetime**. This peacetime planning is based on higher level planning guidance and CINC planning assumptions such as warning time, enemy capabilities and intentions, and location of the threat. The CINC is responsible for defining theater objectives, nominating targets, and developing the plans required to support those objectives. USSTRATCOM supports the CINCs throughout the deliberate planning process to develop tailored nuclear support annexes to theater OPLANs.

b. CINCs direct the development of **campaign plans, subordinate campaign plans, and major operation plans**. Review of these plans is a continuous process, incorporating lessons learned from exercises and operations, changes in available forces, and reevaluation of the threat.

c. Component commanders responsible for execution of major operations prepare appropriate plans.

8. Joint Planning Process

Joint operation planning is a coordinated set of **two processes** used by a commander to determine the best method of accomplishing the mission. In peacetime, it is called the **deliberate planning process**. In crisis situations, the **crisis action planning**

Chapter III

process is used. Guidance for preparing and coordinating plans for the employment of nuclear weapons is provided in the Nuclear Supplement to the JSCP. Guidance on the joint planning process can be found in Joint Pub 5-0, "Doctrine for Planning Joint Operations," and Joint Pub 5-03.1, "Joint Operation Planning and Execution System, Volume I (Planning Policies and Procedures)."

9. Nuclear Requirements

USCINCSTRAT will coordinate and develop procedures, when required, for the storage, security, movement, deployment, and employment of nuclear weapons within the theater.

10. Crisis Management

Because preplanned theater nuclear options do not exist for every scenario, **CINCs must have a capability to plan and execute nuclear options for nuclear forces generated on short notice** during crisis and emergency situations. During crisis action planning, geographic combatant commanders evaluate their theater situation and propose courses of action or initiate a request for nuclear support. The CJCS, in coordination with USCINCSTRAT and appropriate supporting CINCs, will initiate crisis action procedures contained in the Nuclear Supplement to the JSCP and the USSTRATCOM supporting plan to provide nuclear support to the supported geographic combatant commander.

CHAPTER IV

COMMAND RESPONSIBILITIES AND STAFF PROCEDURES

"Unless a staff officer is able to assist his commander in getting things done, in addition to coordinating, planning and policy making, he is not serving his full usefulness."

General Alexander M. Patch
Quoted in Ray S. Cline,
Washington Command Post, 1951

1. Command Guidance

a. Since nuclear weapons can have a significant impact on the conduct of operations at all levels in a theater, command guidance must be provided as early as possible in the planning process. **In the initial guidance, commanders should provide information to their staffs and components about employing nuclear weapons as well as information on other forces and conventional weapons.** Additionally, the geographic combatant commanders should identify targets and target options to USCINCPAC as early in the planning process as possible. **When requested by the geographic combatant commander, USSTRATCOM will develop theater nuclear support plans.**

b. Commanders and their staff officers should understand **effects, employment procedures, capabilities, and limitations** of available nuclear weapon systems. Target analysts, along with USSTRATCOM planners, can provide technical advice and assistance to commanders and staffs.

c. Command guidance normally consists of the items shown in Figure IV-1.

2. Target Acquisition

a. In a conventional conflict, the primary purpose of intelligence is to provide commanders with sufficient information on enemy locations and probable courses of action so that they can apply combat power at decisive points and critical times. This

COMMAND GUIDANCE FOR NUCLEAR OPERATIONS

1. A statement of the desired results such as halting an enemy attack, striking a particular enemy facility, or neutralizing a particular enemy target set
2. Circumstances or decision points leading to a geographic combatant commander's request for nuclear execution
3. The concept for the subsequent use of weapons if the initial effort does not accomplish the desired results
4. Delivery systems available for planning
5. The level of acceptable risk to friendly troops and noncombatants
6. Restrictions on fallout from a detonation
7. Collateral damage criteria
8. Criteria for intelligence collection, target priorities, and combat assessment for a possible restrike, if necessary
9. Projection of limitations for subsequent deployment and logistical support to conventional joint operations

Figure IV-1. Command Guidance for Nuclear Operations

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purpose remains the same in a nuclear environment.

b. **Target acquisition** is an integral part of the **intelligence collection process**. It involves the timely **detection, identification, and location of a target** in sufficient detail to use weapons effectively. Intelligence systems assist in target tracking and development of intelligence for target analysis, target refinement, weapons employment, and BDA. **The effectiveness of a nuclear strike is enhanced by the accuracy, completeness, and timeliness of intelligence.** Thus, intelligence collection efforts should continuously seek specific information on potential targets, such as that shown in Figure IV-2.

c. Because each target acquisition technique has its inherent strengths and weaknesses, intelligence collection should be broadly based, obtaining information from all available sources to include enemy doctrine and tactics, policy, and strategy.

d. Additional information on target acquisition can be found in Joint Pub 3-55, "Doctrine for Reconnaissance, Surveillance, and Target Acquisition Support for Joint Operations."

3. Integrated Intelligence Planning

Intelligence planning is a key element of any operation. The **collection, production, and dissemination** of intelligence to satisfy the requirements of operational units is of paramount importance. In developing the initial and follow-on collection plans, **intelligence personnel must ensure that all available intelligence assets**, whether national or organic, **are tasked to cover the designated target** and provide early warning of enemy use of WMD.

INFORMATION REQUIRED ON POTENTIAL TARGETS

1. Type
2. Location
3. Size
4. Shape
5. Composition
6. Concentration
7. Vulnerability
8. Regeneration/
Reconstitution
9. Dwell Time or
Direction and Speed
of Movement
10. Target Defenses

Figure IV-2. Information Required on Potential Targets

4. Joint Operation Planning

Joint operation planning is based on the **mission, the enemy, terrain, combat forces constraints, logistic support available, and time.** During the estimate of the situation, the commander develops courses of action, compares and evaluates them against possible enemy responses, and recommends the best course of action. **The commander identifies the situations where the use of theater nuclear forces would result in a significant advantage**

Command Responsibilities and Staff Procedures

over the enemy. Proper joint operation planning increases the commander's flexibility and facilitates the package approval and release process.

5. Peacetime Planning

Given an operation plan within an area of responsibility and/or joint operations area and a threat, it is advantageous to plan as many potential operations as possible in peacetime. The objective is to **provide plans for nuclear operations that are ready to be used immediately should the need arise and yet are flexible enough to accommodate the dynamic environment that could develop as a conflict matures.** Joint force commanders normally delegate authority for execution planning, coordination, and deconfliction to a commander possessing sufficient command and control infrastructure, adequate facilities, and joint planning expertise. Component commanders, including potential JFACCs, should develop and evaluate plans for employment to include airspace and frequency deconfliction and communications planning.

6. Support Coordination

a. **Nuclear support** is coordinated through geographic combatant commander and/or subordinate joint force commander channels. US Air Force or Navy delivery systems can provide nuclear support to Army or Marine Corps operations. Coordination with the Air Force component is made through the Air Force air operations center (AOC) by the collocated Army battlefield coordination element. Coordination with the Navy and Marine Corps components is made through the naval and amphibious liaison element. Coordination with special operations forces (SOF) can be made through the special operations liaison element.

b. When preparing nuclear support plans, USSTRATCOM will coordinate with supporting Service components and the geographic combatant commander to **prevent fratricide and ensure unity of effort.** USSTRATCOM planners require input from Service experts to ensure that appropriate weapon yields, delivery methods, and safe delivery routing are selected. **Targeting**



Theater nuclear support delivered by US Air Force and Navy systems is thoroughly coordinated among USSTRATCOM, the Services, and the geographic combatant commander to ensure unity of effort.

Chapter IV

conflicts should be resolved with direct consultations between the supporting and supported CINCs' staffs. Joint Pub 3-12.2, "Nuclear Weapons Employment Effects Data," provides data and technical procedures to analyze nuclear weapons effects.

c. Consideration must be given to **special operations forces** operating in an area of nuclear operations. Coordination with the joint force special operations component commander is crucial, since this commander controls SOF operating in enemy territory. **Such operations must be deconflicted with the appropriate planning element** to avoid SOF being in the vicinity of nuclear operations.

7. Control and Distribution

a. Nuclear weapon supply levels and expenditure are **tightly controlled**. **The NCA and combatant commander control the distribution of nuclear weapons** based upon the number of weapons assigned, operational requirements, and the threat.

b. Distributing nuclear weapons requires logistical as well as operational consideration. Distribution is affected by the factors shown in Figure IV-3.

Additional information on distribution of nuclear weapons can be found in CJCSM 3150.04 (formerly Joint Pub 1-03.7), "JRS, Nuclear Weapons Reports (U)," and Defense Nuclear Agency guidance on nuclear logistics, transfer, and reporting policies.

c. Commanders and staff officers should know and understand the **capabilities and limitations of the logistics system**. The nuclear weapon logistics system is tailored to operate in various environments. Planning and controlling nuclear weapons support should involve:

FACTORS AFFECTING NUCLEAR WEAPONS DISTRIBUTION

1. The Mission
2. Planning for Immediate and Subsequent Requirements
3. Survivability
4. Availability
5. Safety
6. Security
7. Transportation Capability
8. Storage Facilities
9. Availability of Skilled Personnel
10. Time and Distance Considerations

Figure IV-3. Factors Affecting Nuclear Weapons Distribution

- continuous nuclear logistic support of tactical operations
- simplicity and uniformity in procedures
- minimum handling of nuclear weapons
- security of classified or critical material and installations

Command Responsibilities and Staff Procedures

d. Security or operational considerations may **restrict the number of weapons** on hand when release authority is received. Procedures should, if possible, be in place for obtaining additional weapons, or tasking an alternate unit to carry out all or a portion of the assigned mission.

8. Security

a. **Storage sites and movement operations for nuclear weapons must be secure.** Effective security requires early detection of threats, visual or electro-optical assessment, and immediate response capabilities if threatened. **Security equipment should be mutually supportive and overlapping.** Security forces must have clearly defined and coordinated authority, jurisdiction, and responsibilities. All elements of the security program must be **integrated** to include command, control, and communications networks used to report duress situations and nuclear incidents to higher command elements.

b. **Nuclear capable units have primary responsibility for their own security.** Plans for the security of nuclear weapons must address the principles of PRP, two-person concept, provisions for custody and accountability, PAL and CSSC procedures, movement during combat, and storage.

9. Warning

a. Friendly forces should receive **advanced warning** of nuclear strikes to ensure that they are not placed at unnecessary risk. Surface commanders and special operations commanders should be informed of such attacks through a **strike warning (STRIKEWARN)** message or other means. Normally, there is no requirement to warn subordinate units when the target analysis indicates that the risk to personnel will not exceed negligible levels and insufficient time

exists to warn all personnel. However, warning should be given if at all possible.

b. A warning given too early may alert the enemy to the planned strike, thereby **decreasing effectiveness** or possibly triggering an enemy **preemptive strike**.

c. **Aircraft** are particularly **vulnerable to weapon effects**, even at low overpressures. Likewise, flash blindness is a significant hazard to personnel in aircraft. Because aircraft can move rapidly from areas of negligible risk to areas of unacceptable risk, **all aircraft in the area of responsibility and/or joint operations area should, to the maximum extent possible, get advance warning of nuclear operations.** For strikes on distant enemy targets, advance warning is required only for the aircraft that may be affected. If possible, consideration should be given to not flying nonparticipating aircraft during nuclear weapons employment. The combination of EMP and high energy light creates significant hazards over vast areas and could cause adverse effects on aircraft and crews.

d. Air Force, Navy, and Marine Corps aircraft may receive warning through the **senior air control facility**. This notification could be via the joint air operations center, AOC, or regional air defense and/or sector air defense center. Army aircraft are warned through **unit command nets or airspace control stations**.

e. **Warnings** may be transmitted via the **Sector Operations Center** or the **Control and Reporting Center** so that these agencies may transmit alerts to their airborne aircraft. Perhaps the most useful method of long-range communications is through **airborne systems** such as the airborne warning and control system and the airborne battlefield command and control center. The AADC must remain apprised of all friendly aircraft transiting areas that are subject to nuclear operations.

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f. **Nuclear STRIKEWARN messages** will be disseminated as rapidly as possible and, insofar as possible, over secure networks. When secure networks are not available, unit signal operation instructions contain authentication procedures and encoding instructions for disseminating STRIKEWARN messages. **Instructions should be easy to use and provide sound operations security (OPSEC).** The STRIKEWARNs are broadcast in the clear when insufficient time remains for the enemy to react prior to the strike.

g. The **commander** executing the strike issues the **initial warning**. The subordinate headquarters whose units will be affected by the strikes are informed. The commander ensures coordination with adjacent commands and elements of other commands in the vicinity, giving them sufficient time to provide warning and to take protective measures. When nuclear strikes are **canceled**, the commander who issued the initial warning will notify units previously warned as quickly as possible.

h. **Not all units will receive the entire STRIKEWARN message.** Some will only receive **specific instructions** about protective measures to take if they are in an area of risk. The message will include:

- A statement that the message is a nuclear warning
- A brief directive concerning the specific protective measures to be taken, including evacuation to an alternate position, if required
- i. **Units will acknowledge STRIKEWARNs**, except when prevented by OPSEC requirements.

j. Units **outside the affected area** are not normally sent a STRIKEWARN message. However, effective liaison may require passing strike data to adjacent units as a matter of procedure. Additionally, consideration should be given to units operating behind enemy lines. Information concerning the strikes may also be of operational concern in updating situation maps and locating obstacles.

10. Combat Assessment

Joint force commanders should **establish a dynamic system to conduct combat assessment operations** across the joint operations area. They normally establish a single point of contact for this assessment at the joint force level. This is normally the joint force J-2, in support of the joint force J-3.

a. **A combat assessment will be required to be made as soon as possible following a nuclear strike.** Intelligence operations must collect data on the enemy to determine if the strike inflicted the desired damage. If possible, combat assessment will be required to include estimates of environmental impact, including radiological contamination of soils, water, and air, as well as contamination carried from the target.

b. **Poststrike reconnaissance** after each strike should use the most appropriate and feasible resources available for intelligence collection and BDA. The reconnaissance process must assess damage to enemy forces, identify targets for restrike, and obtain information on residual damage (i.e., fires, radiation, obstacles). Since there will be a requirement to exploit the results of the strike immediately, this information must be **processed and disseminated** in a timely manner. Unmanned aerial vehicles, fixed-wing aircraft, space-derived information, and other available assets may be used to obtain assessment information immediately.

APPENDIX A

REFERENCES

The development of Joint Pub 3-12.1 is based on the following primary references:

1. Joint Pub 1-01, "Joint Publication System (Joint Doctrine and JTTP Development Program)"
2. Joint Pub 1-02, "DOD Dictionary of Military and Associated Terms"
3. Joint Pub 2-0, "Joint Doctrine for Intelligence Support to Operations"
4. Joint Pub 2-01.1, "JTTP for Intelligence Support to Targeting," (In Development)
5. Joint Pub 3-0, "Doctrine for Joint Operations"
6. Joint Pub 3-11, "Joint Doctrine for Nuclear, Biological, and Chemical (NBC) Defense"
7. Joint Pub 3-12, "Doctrine for Joint Nuclear Operations"
8. CJCSI 3110.04 (under development), "Nuclear Supplement to the Joint Strategic Capabilities Plan (JSCP FY 96)"
9. DODD 5210.41, 23 Sep 88, "Security Policy for Protecting Nuclear Weapons"

Appendix A

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APPENDIX B

ADMINISTRATIVE INSTRUCTIONS

1. User Comments

Users in the field are highly encouraged to submit comments on this publication to the Joint Warfighting Center, Attn: Doctrine Division, Fenwick Road, Bldg 96, Fort Monroe, VA 23651-5000. These comments should address content (accuracy, usefulness, consistency, and organization), writing, and appearance.

2. Authorship

The lead agent for this publication is the US Air Force. The Joint Staff doctrine sponsor for this publication is the Director for Strategic Plans and Policy (J-5).

3. Change Recommendations

- a. Recommendations for urgent changes to this publication should be submitted:

TO: CSAF WASHINGTON DC//XOXD//
INFO: JOINT STAFF WASHINGTON DC//J7-JDD//

Routine changes should be submitted to the Director for Operational Plans and Interoperability (J-7), JDD, 7000 Joint Staff Pentagon, Washington, D.C. 20318-7000.

- b. When a Joint Staff directorate submits a proposal to the Chairman of the Joint Chiefs of Staff that would change source document information reflected in this publication, that directorate will include a proposed change to this publication as an enclosure to its proposal. The Military Services and other organizations are requested to notify the Director, J-7, Joint Staff, when changes to source documents reflected in this publication are initiated.

- c. Record of Changes:

CHANGE NUMBER	COPY NUMBER	DATE OF CHANGE	DATE ENTERED	POSTED BY	REMARKS

Appendix B

4. Distribution

- a. Additional copies of this publication can be obtained through Service publication centers.
- b. Only approved pubs and test pubs are releasable outside the combatant commands, Services, and Joint Staff. Release of any joint publication to foreign governments or foreign nationals must be requested through the local embassy (Defense Attache Office) to DIA Foreign Liaison Branch, C-AS1, Room 1A674, Pentagon, Washington, D.C. 20301-7400.
- c. Additional copies should be obtained from the Military Service assigned administrative support responsibility by DOD Directive 5100.3, 1 November 1988, "Support of the Headquarters of Unified, Specified, and Subordinate Joint Commands."

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GLOSSARY

PART I—ABBREVIATIONS AND ACRONYMS

AADC	area air defense commander
AOC	air operations center
BDA	battle damage assessment
C2	command and control
C4	command, control, communications, and computers
CINC	commander of a combatant command; commander in chief
CJCS	Chairman of the Joint Chiefs of Staff
CSSC	coded switch set controller
DCA	dual-capable aircraft
DGZ	desired ground zero
EAP	emergency action procedure
EMP	electromagnetic pulse
HOB	height of burst
ICBM	intercontinental ballistic missile
JFACC	joint force air component commander
JFC	joint force commander
JSCP	joint strategic capabilities plan
NBC	nuclear, biological, and chemical
NCA	National Command Authorities
NWP	naval warfare publication
OPLAN	operation plan
OPSEC	operations security
PAL	permissive action link
PRP	personnel reliability program
SIOP	Single Integrated Operational Plan
SLBM	submarine-launched ballistic missile
SOF	special operations forces
STRIKEWARN	strike warning
TLAM/N	Tomahawk land attack missile/nuclear

Glossary

USCINCSTRAT	Commander in Chief, US Strategic Command
USSTRATCOM	US Strategic Command
WMD	weapons of mass destruction

PART II—TERMS AND DEFINITIONS

area air defense commander. Within a unified command, subordinate unified command, or joint task force, the commander will assign overall responsibility for air defense to a single commander. Normally, this will be the component commander with the preponderance of air defense capability and the command, control, and communications capability to plan and execute integrated air defense operations. Representation from the other components involved will be provided, as appropriate, to the area air defense commander's headquarters. Also called AADC. (Joint Pub 1-02)

dual capable unit. A nuclear certified delivery unit capable of executing both conventional and nuclear missions. (Joint Pub 1-02)

executing commander (nuclear weapons). A commander to whom nuclear weapons are released for delivery against specific targets or in accordance with approved plans. (Joint Pub 1-02)

joint force air component commander. The joint force air component commander derives authority from the joint force commander who has the authority to exercise operational control, assign missions, direct coordination among subordinate commanders, redirect and organize forces to ensure unity of effort in the accomplishment of the overall mission. The joint force commander will normally designate a joint force air component commander. The joint force air component commander's responsibilities will be assigned by the joint force commander (normally these would include, but not be limited to, planning, coordination, allocation, and tasking based on the joint force commander's apportionment decision). Using the joint force

commander's guidance and authority and in coordination with other Service component commanders and other assigned or supporting commanders, the joint force air component commander will recommend to the joint force commander apportionment of air sorties to various missions or geographic areas. Also called JFACC. (Joint Pub 1-02)

National Command Authorities. The President and the Secretary of Defense or their duly deputized alternates or successors. Also called NCA. (Joint Pub 1-02)

nuclear delivery unit. Any level of organization capable of employing a nuclear weapon system or systems when the weapon or weapons have been released by proper authority. (Joint Pub 1-02)

nuclear yields. The energy released in the detonation of a nuclear weapon, measured in terms of the kilotons or megatons of trinitrotoluene required to produce the same energy release. Yields are categorized as:

very low - less than 1 kiloton.
low - 1 kiloton to 10 kilotons.
medium - over 10 kilotons to 50 kilotons.
high - over 50 kilotons to 500 kilotons.
very high - over 500 kilotons. (Joint Pub 1-02)

permissive action link. A device included in or attached to a nuclear weapon system to preclude arming and/or launching until the insertion of a prescribed discrete code or combination. It may include equipment and cabling external to the weapon or weapon system to activate components within the weapon or weapon system. (Joint Pub 1-02)

Glossary

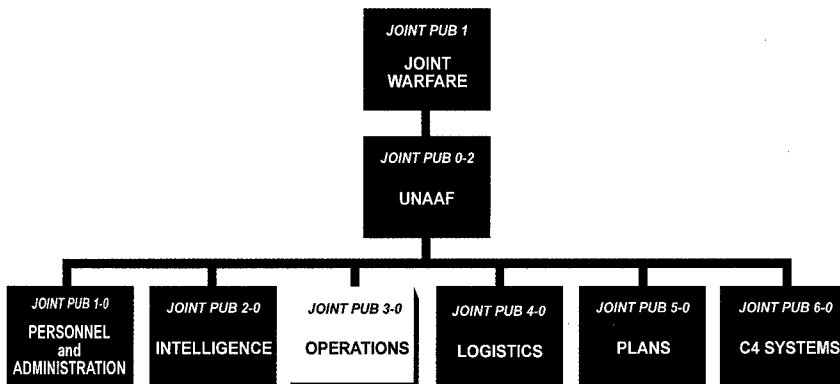
pre-ignition (nuclear weapons). The loss of a nuclear warhead from the effects of another warhead due to improper timing or spacing. (Upon approval of this publication, this term and its definition will be included in Joint Pub 1-02.)

targeting. 1. The process of selecting targets and matching the appropriate response to them, taking account of operational requirements and capabilities. 2. The analysis of enemy situations relative to the commander's mission, objectives, and capabilities at the commander's disposal, to identify and nominate specific vulnerabilities that, if exploited, will

accomplish the commander's purpose through delaying, disrupting, disabling, or destroying enemy forces or resources critical to the enemy. (Joint Pub 1-02)

weapons of mass destruction. In arms control usage, weapons that are capable of a high order of destruction and/or of being used in such a manner as to destroy large numbers of people. Can be nuclear, chemical, biological, and radiological weapons, but excludes the means of transporting or propelling the weapon where such means is a separable and divisible part of the weapon. (Joint Pub 1-02)

JOINT DOCTRINE PUBLICATIONS HIERARCHY



All joint doctrine and tactics, techniques, and procedures are organized into a comprehensive hierarchy as shown in the chart above. Joint Pub 3-12.1 is in the Operations series of joint doctrine publications. The diagram below illustrates an overview of the development process:

